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A Decision making environment the healthcare industry

Terry Ovenshire

A DECISION MAKING ENVIRONMENT

IN

THE HEALTHCARE INDUSTRY

by

Terry Ovenshire

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ABSTRACT

A DECISION MAKING ENVIRONMENT

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by
Terry Ovenshire

This was a pilot study on the decision making environments in the health care industry. A critical incident questionnaire which was developed by Boone & Kilmann (1988) and later used by Janet Barnard (1992) in her research " Decision Environments of Small Firms" was adapted.

The questionnaires were sent to 201 employees at the facility in the first sampling. A response of almost 50% was received, but the food service department was only represented by 3 respondents. It was decided that a second sampling would be sent to that department to assure a large enough set of respondents to use as a comparison group. Among the 113 final respondents, the majority (79%) are female employees. Most of the participants are over 35 years old, and their years of experience in the health care industry range from 11 to over 20 years, while 79% of the respondents have a Bachelors degree or higher education level.

In part one of the questionnaire, the respondent was asked to consider and briefly describe a work related decision in which he/she was recently involved. There were 77 participants (68.1%) who answered this question, of those 62 were operational decisions and 15 were strategic decisions.

Part two of the questionnaire was a set of 32 questions randomly arranged. The set of 32 questions were divided in 6 main factors: factor 1- Inputs, factor 2- Problem ID, factor 3- Rewards, factor 4- Group Efforts, factor 5- Politics, and factor 6- Resource Adequacy. A series of t-test were done on the six factors analyzing possible differences in gender, TQM training cycle, age, education level, years of experience, department, direct care provider or not, and type of direct care provider. A 0.95 confidence interval was used to identify if there was a significant difference.

The pilot study had several significant differences, but the most interesting was the large gap between the food service department and all the other departments. It appears that as a rule most everyone except the administrative group agree that the rewards are very poor and the political blocks are also very bad. The only difference is that food service believes that it is worse in their area.

This study illustrates that the health care industry needs to begin to understand the decision making environment within the facilities. It is evident with the finding of only one or two related articles on the subject that health care is neglecting this topic. It is recommended that the instrument be adapted and used at several other healthcare facilities to obtain a base to compare the quantitative data against. The results of further studies would be to understand and improve the decision making environment of the healthcare industry.

ACKNOWLEDGMENTS

I would like to take this opportunity to thank a few of the many people who have help make all this possible. I would like to thank my wonderful wife Lisa for being so patient and allowing me the time to complete this paper. I would additionally like to thank Dr. Edward Stockham for the time and knowledge he continually provided during this project. The final thanks is to my parents who were always there during my first 25 years of education.

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INTRODUCTION

Decision making is the most important part of any work environment, however, it is also the least studied and understood process within most organizations. All decisions are made within an environment whether at work or play. If we think back in time, we can probably find several decisions we have made that were affected almost entirely by the environment. The decision that stands out the most to many of us was whether or not to attend college. The decision was that I would attend college mainly because my brother and friends had attended or were going to attend.

"Because modern organizations address a variety of problems in their increasingly complex and interdependent environments, managers must be capable of identifying the structures and processes that support effective decision making under many different circumstances." (Boone and Kilman, 1991). Implementation of a Continuous Quality Improvement and Total Quality Management (CQI/TQM) process requires that management develop a "changed" work environment. The leaders in a "changing" work environment must first create a new vision for the organization and then establish the context, consisting of decision structures and processes, in which the employee will make the majority of the decisions that will guide the organization. The training and resources must be provided to the employee for the change to occur in the current workplace culture.

Administrators in the Healthcare Industry are currently moving in the direction of CQI/TQM. The purpose of the movement to TQM is to provide the best quality care possible no matter the direction taken by healthcare reform on a national level. It is the goal of each healthcare facility to have their management culture in a position to change. The concentration of this paper will be to determine the decision making environment within a 700 bed acute care hospital with adjoining healthcare facilities.

The motivation for this study is to build a base of quantitative data to provide the healthcare industry with more than just opinions and feelings on the Total Quality Management (TQM) theory and the decision making environment within this management style. The plan at the facility used in this case study is to apply TQM principles in order to achieve its goal of increasing customer satisfaction. The responsibility to implement this increase is in the hands of the facility's current administrators. Surveys were developed and administered to all its external customers; however, its internal customers(the employees) were not surveyed. The employee in this system is the everyday decision maker. From over forty articles on the subject in healthcare journals, only two had quantitative data, and they were not specifically related to the decision making environment. The remaining articles were all opinions or generalizations of TQM improvement results.

PROBLEM STATEMENT

A customer in the health care industry is defined as patients, employees, vendors, and third party payers. The need for healthcare facilities to increase customer satisfaction through quality service and thereby separate themselves from the ever increasing competition of the current health care reform era will be necessary for them to secure a position in the future of the healthcare industry. The lack of a method to measure the decision making environment of the employee is potentially the largest problem with the implementation of TQM in the infancy stage (*short term results). Therefore, the research question of this study was whether or not the structures and processes that support effective decision making in a healthcare setting could be measured using the Organizational Team Survey developed by Boone and Kilmann (1991) with specific emphasis in foodservice?

PURPOSE

The purpose of this case study was to pilot test a critical incident instrument's use in assessing the decision making structures and processes in a large, medical center and teaching hospital (health care facility) with respect to all employees who had been trained recently in the hospital's Total Quality training program. As suggested in the literature, the instrument would be tested for identifying differences in the decision making environments among micro groups within the facility.

HYPOTHESIS

Six factors have been empirically identified as critical to the effectiveness of decision making in work organizations (Boone and Kilmann 1991 p. 147. These are:

1. Multiple inputs and alternatives - (Inputs)
2. Problem identification and organization - (Problem)
3. Rewards for good decisions - (Rewards)
4. Use of Group Efforts - (Groups)
5. Resource adequacy - (Resources)
6. Bureaucratic blocks and politics - (Politics)

The hypothesis of this study is that the importance of each factor will be viewed differently by the respondents according to their TQM training Cycle (experience with TQM), age, education, direct care provider or not, and (clinical, nursing, administration and education, support services and food service) departments.

ASSUMPTIONS

It is assumed that all employees who have attended basic TQM training will be able to determine the decision making processes used in the management functions of the health care facility with regard to TQM as a

management style. Therefore, they were qualified as health care or food service professionals and potential respondents to the survey.

SCOPE AND LIMITATIONS

Eight hundred out of five thousand possible employees have attended Total Quality Management basic training. As a pilot study, the scope of the research was to be only a sample of those who had attended the training. The study was only conducted at a single health care facility.

METHODOLOGY

This project is a case study on a decision making environment within one healthcare facility. The methodology selection is divided into four subsections:

- Instrumentation (Questionnaire)
- Sample and Population
- Questionnaire Administration
- Method of Data Analysis

Instrumentation: The Boone and Kilman (1991) (Organizational Team) survey was used to evaluate the kinds of decisions and the intensity of agreement with structures and processes supporting decision making among the groups of employees who had attended the TQM training. Six decision

making factors are derived from the responses to the thirty two statements. A primary criterion used to identify these factors for internal consistency of each factor was measured by Cronbach's alpha which estimates reliability based on the average correlation among items and the number of items. According to Nunnally (1978), this is a good means of estimating reliability since the major source of measurement error is the sampling of content (Boone and Kilmann, 1991). Two factors labeled Multiple Inputs and Alternatives and Problem Identification and Organization assess closely interrelated steps (proposed by numerous researchers) of the decision making process in an organization. Four factors labeled Rewards for Good Decisions, Use of group Efforts, Bureaucratic Blocks and Politics and Resource Adequacy assess the non-rational, behavior aspects of decision making. Table 1 summarizes the six factors, and includes the Cronbachs alpha value that indicates the reliability factor associated with the corresponding factor.

In part I, each employee was asked to consider a work-related decision that they had been involved in recently and to briefly describe that decision. In part II, the employee was asked to keep the decision made in part 1 in mind as they read the 32 questions and indicate their degree of agreement or disagreement with each on a 5-point Lickert scale, or indicated that the question was not applicable to that decision. One on the scale is strongly disagree and five is strongly agree with that question. In part III, the

TABLE 1

THE SIX FACTORS CONCERNING THE DECISION MAKING ENVIRONMENT

1. Inputs - Multiple Inputs and Alternatives. The cluster measured the establishment of clear objectives of the decisions, whether alternatives were identified and considered, the availability of information, freedom of communication, support for the implementation oft the decision, and the willingness of the decision makers to take some risks. (0.68)**

2. Problem - Problem Identification and Organization. The items in this group explored the accuracy of problem identification, the clarity of relationships, the appropriate use of skills, and the reliability of information used in coping with the decision. (0.69)**

3. Rewards - Rewards for Good Decisions. This group of items measured the effectiveness of performance measures, the relationship between rewards and ideas, and motivation outcomes of the reward system. (0.63)**

4. Teamwork - Use of Group Efforts. these items examined the hierarchical source of the decisions, the opportunity for input from others, and use of groups in decision making. (0.62)**

5. Politics - Bureaucratic Blocks and Politics. Belief about the existence of structural political aspects of the environment as they affected the decisions were measured by items relating to red tape, resistance to change, and political activity. (0.72)**

6. Resources - Resources Adequacy. This dimension measured the adequacy of physical resources in the decision making process; the access to and reliability of equipment used by the decision makers. (0.67)**

* Source: Janet Barnard (1991, January). Decision environments of small firms experiencing rates of growth. American Business Review. p. 55.

** Cronbach's Alpha Reliability Measure

demographic data about the respondents' sex, age, years in the healthcare industry, direct care provider, department, and cycle of TQM training (a group of employees from any area who have attended a three day training session on TQM). The final questionnaire used in this study was approved by the head of the medical centers' Quality Training Program. A copy of the approved questionnaire is provided in Appendix 1.

Questionnaire Administration. The questionnaire and cover letters (see Appendix 2 & 3) were distributed by interoffice mail on February 10, 1994 and the responses were returned to the Quality office by February 25, 1994. Half of the questionnaires (100) sent included a coupon for a free cup of coffee to encourage responses. A second interoffice mailing was made to employees in the foodservice department in March 1994.

Sample Population. The sample population included 201 (25%) staff members who had attended or would be attending TQM training cycles out of a possible 800. A proportionate sample from each TQM cycle was taken for the survey using a stratified random sample technique. The proportions were 30 surveys to cycle 1, 27 to cycle 2, 28 to cycle 3, 29 to cycle 4, 29 to cycle 5, 29 to cycle 6, and 29 to cycle 7. Cycle's 1-3 were composed of the facility's top management personnel, since the training programs were conducted from the top levels down to the lower levels of management and staff. The remaining four cycles consisted of first line supervisors or professional staff (i.e. nurse or dietitian); a very limited number of front-line

employees were included in these latter cycles. The initial return did not include a large enough sample from the Food & Nutrition Department. The entire department was subsequently sent a cover letter (see Appendix 4) and questionnaire (33) to assure a larger sample from that department. The surveying of the entire food service department also allowed for a very small sample of employees who had not attended the TQM training.

Data Analysis. The completed questionnaires were collected and coded to maintain confidentiality. Data analysis was done using the SPSS-X program. Means and frequencies (%) were calculated and tabulated for responses to each factor and demographic information. Two-tailed group t-tests were run to test for significant differences in responses to the six factors and items according to their TQM training cycle, age, sex, years of experience, department, education level, and direct care provider or non-direct care providers. Only summary data was tabulated and reported for purposes of evaluating the responses to the kinds of decisions made in answering the survey. The confidence interval of the group t-tests was 0.95 and the significance with a p- value higher than 0.1 was rejected.

SIGNIFICANCE

The TQM theory has reportedly been very successful in manufacturing companies, but, it remains unproven in the health care industry. The health care industry is just beginning to use Total Quality Management

(TQM); however, data to support the adoption of this management theory in the healthcare settings is unavailable. The study conducted will provide a more quantitative sampling of one specific health care facility's perceptions on the team decision making environment. Additionally, it will support or contradict current thinking of whether or not the TQM thinking has had an impact on the people who've received this training, and if it needs additional support, or a completely new look. Additional surveys should be conducted at selected intervals in the facility studied to measure changes in their decision making environment. The results and comparisons could show where improvement has been made in the decision making processes using teams.

The results of this study could provide a base for comparison both within the health care facility and with other service industries. The ability to compare other health care facilities will become available.

The use of this critical incident team survey could help bring about decision making process change with the internal and external environments if used correctly.

DEFINITION OF TERMS

Total Quality Management (TQM): Management philosophy that involves organization wide participation in planning and implementing a continuous improvement process to meet customer needs and exceed their expectations.

Health Care Facility: An organization that cares for people who are ill to any degree.

Decision Making Process: The way an individual decides on a solution or strategy as well as an organization of people.

A TQM Cycle: The facility the research was conducted in trained groups of personnel in TQM. Each group is referred to as a cycle with one being the first.

Direct Care Provider: An individual who is directly responsible for the care of a patient (i.e. nurse, physician).

Non-Direct Care Provider: An individual who is not directly responsible for the care of a patient (i.e. billing clerk, cook)

Decision Maker: Every employee at the healthcare facility is a decision maker.

LITERATURE REVIEW

The concentration of the literature research was directed to Total Quality Management, Quality Service, and Continuous Quality Improvement. The literature search for decision making within the healthcare environment had no current articles (1991 - present) in the data base ABI. The cross references where for management theory as decision making is a major part of any management theory. Decision making has often been termed the most important function of management (Barnard, 1992). The interest of the healthcare environment is in Total Quality Management.

The founder of the quality movement is considered to be Dr. Edwards Deming. He is thought to be the prime catalyst behind the revitalization of Japanese industry after World War II. The initial start of TQM was in the 1950's in Japan and was introduced by Dr. Deming with a theory of 14 points to quality management. These 14 points are as follows:

1. Create constancy of purpose for the improvement of products and service.
2. Adopt the new philosophy.
3. Cease dependence on mass inspection.
4. End the practice on awarding business on price tag alone.
5. Improve constantly and forever the system of production and service.
6. Institute training and retraining.
7. Institute leadership.

8. Drive out fear.
9. Break down barriers between staff areas.
10. Eliminate slogans, exhortations, and targets for the workforce.
11. Eliminate numerical quotas.
12. Remove barriers to pride in workmanship.
13. Institute a vigorous program of education and retraining.
14. Take action to accomplish the transformation.

It was with this quality oriented management theory that the Japanese developed quality products and processes to increase their competitive market share, especially in the automobile and electronic industries, over the U.S. It did not take long for American industry to soon try to imitate the Japanese management theory in hope of similar success. In the early 1980's premier companies such as Westinghouse, Motorola and Xerox recognized a product quality gap and adopted this quality management philosophy whereby the employees made the decisions. It was the success of these manufacturing companies and the Japanese who showed that a quality management theory could be successful. The names given to these quality management theories were Total Quality Management (TQM), Continuous Quality Improvement (CQI), and Quality of Service. In 1987 the Healthcare industry first established a quality workshop or leader group.

Holtzman (1994) and Curtin (1994) suggest that all this "new" TQM is nothing more than a new version of an old thing. They suggest that it is

back to team management started in the early 1970's, and that it is an old fashioned value system, which could be defined as doing your best the first time and every time. Kerr (1993), Langenfeld (1993), Labovitz (1991), Johnson (1993), and Merry (1991) agree that the TQM concept requires an organization wide involvement that cannot be done by only a few in their organizations. There must be a commitment made from the top to the bottom of an organization for success to occur with this concept. These authors also state it must not be rushed into, since organizational change of this magnitude may take several years depending on the size of the organization. Albrecht (1993), Barrett (1993), and Jablonski (1992) agree with the above authors, but they feel the customer is the critical piece of TQM. The whole TQM movement may not be effective if you don't recognize "who are the customers?" and "what are their needs?".

Identifying customers is more challenging for healthcare organizations than for many other service organizations because of the unique nature of the healthcare industry. Typically, an organization's customers can be fairly easily identified: the customer is the party for whom the service is rendered and from whom revenue is collected. In health care, however, services are rendered to patients; but revenue is collected from insurance companies, government agencies, and other parties who are usually not present when the service is performed (Jablonski, 1992 p. 17). It is this discrepancy that makes defining who the customer is in health care more

difficult. In health care it is also important to differentiate between internal and external customers. Internal customers are those individuals and departments inside the organization who either use or are the beneficiaries of tasks, activities and outputs of other departments. External customers are those entities and individuals outside the organization who receive services and/or provide revenue (Jablonski, 1992 p. 18).

The estimated cost of not using TQM is a 30% lack in efficiency (Health Care Executive March/April 1991). Boles, Neumann, and Suver (1992) defined quality costs as all costs incurred to help the employee do the right job every time, and the cost of determining if the output is acceptable, plus any cost incurred resulting from output that does not meet healthcare specifications and/or customer expectations. The difficult part for the physical accounting for this quality is that accountants no longer have direct costs, many of which are hidden when creating service quality. The idea that the employee is in control of everything indicates that the employee has the ability to spend money for items as he or she decides. Management has brought in many consulting firms to improve the cost efficiency of TQM. In the article "Total Quality Management Becomes Big Business," David Budra (1991) suggests that possibly the health care industry is spending needless dollars on consulting firms to explain how they can become TQM oriented. The use of these consultants is adding to the overall cost of business within health care.

Management has now been faced with big decisions which include a reality check of their commitment to the TQM concept.

The critical point for management is that you must be able to measure in tangible fashion (bottom line) in order for the management team to accept or reject the theory. The development of tools to provide these tangible measurements of intangible quality concepts is difficult if you are a bottom line oriented person. Articles by Weinheimer (1993), Thompson (1991), Caldwell (1993),Gardner and DeMello (1993),Dubnicki and Williams (1992) suggest that healthcare should take advantage of entering the TQM arena late and not make the mistakes other industries had made. The tools expressed as useable by these authors were to benchmark services with other facilities using similar benchmarking, and to connect individual rewards to individual performance. The articles lacked quantitative data to support the use of any of these tools. The article "The Quality March" in Hospitals & Health Networks (January 5, 1994) was the only one in which a survey was noted and used to explain suggested results. The survey was related to technical performances in the surgery area, but it did indicate that hospitals with successful TQM programs were significantly ahead of those without it. The tools for determining the cultural change resulting from TQM were not suggested. It is this cultural change and commitment to TQM which usually indicates the facility is on the right path. It is the lack of data related to the

decision making environment that has created the need for the research in this paper.

According to Janet Barnard (1992), the two most important characteristics of a successful business were decision making and characteristics of the problem-solving environment. Creation of the needed environment in a business calls for a complete cultural change. The environment of a healthcare facility is probably the most complex of all those related to the service industry. The patient is not usually there by choice and is not feeling well. These two items often make for disgruntled customers. It is possible to compare a hospital to a hotel. Both a hotel and a hospital measure success in customer nights and percentage of occupancy. Beyond the expectation of a hotel it is also expected that the hospital aid in healing the customer. It is within this environment that healthcare is introducing TQM.

The two main ideas of TQM which are difficult for top down organizations to adopt and change are the customer is most important and the employee is the decision maker. The word empowered is usually associated with TQM when referring to the employee as the decision maker. It is easy to say every employee is empowered, but for it to actually happen is completely different. Because employee acceptance and commitment to TQM will determine its success, change-management techniques need to be included in the planning process, both to minimize the natural resistance people have to change and to establish trust (Barrett, 1993).

The key as expressed above is that for TQM and its decision making process to be successful, it must be an organization wide commitment. What is the best way to sustain a commitment to TQM? Empowerment - involvement in decision making- is commonly viewed as essential for assuring a continuous improvement orientation. But to assure sustained results, enfranchisement, which adds extrinsic reinforcement to the mix, is more powerful. Enfranchisement is equated to empowerment , rewards and recognition. The use of TQM should not be considered a short term goal or "quick fix" (Dubnicki and Williams, 1992).

TABULATION AND ANALYSIS OF DATA

The case study is a multivariate analysis - the simultaneous examination of two or more variables. The sample is a stratified random sample – the grouping of the units composing the population into homogeneous groups, used in conjunction with simple random sampling of the groups (Babbie, 1990, p.52). The Organizational Team Survey questionnaire developed by Boone and Kilmann (1988) was used to measure the kinds of decisions made and the structures and processes supporting them in a health care setting.

The response rate to the survey was 48.3% (113) of the 234 who were surveyed. The response from the separate survey of the food service department was 51.5% or 17 respondents. The results of the demographic survey are presented in Table 2 by the number of respondents and percentage of total. There were 13 respondents who had not attended a cycle of training, because of the second mailing to the entire food service department or had not answered the question. The results were 78.8% of the respondents were female, while over 60% of the respondents were 35-55 years old. The highest percentage group for years of experience was the over 20 years of experience group 28.3% and the Bachelors and Masters degrees in education were 70% of the total sample. The direct care providers 46% and non-direct care providers 50% were almost equal. The response rate by TQM training cycle was 60% (18) for cycle 1, 55.5% (15) for cycle 2, 50% (14) for cycle 3, 65.5% (19) for cycle 4, 31% (9) for cycle 5, 58.6% (17) for cycle 6, 27.6% (8) for cycle 7. The

response to the department question was the only question which the respondents utilized the no answer selection 35%, the highest.

TABLE 2

SURVEY OF DEMOGRAPHIC DATA OF RESPONDENTS

	Frequencies (%)	Sample (N)
Sex		
N/A	3.5	4
Female	78.8	89
Male	17.7	20
Age		
N/A	1.8	2
>25	.9	1
26-35	31.0	35
35-45	46.9	53
46-55	15.9	18
56 over	3.5	4
Years Experience		
N/A	3.5	4
1 - 5	8.0	9
6 - 10	22.1	25
11 - 15	24.8	28
16 - 20	13.3	15
over 20	28.3	32
Level of Education		
N/A	3.5	4
High School	7.1	8
Associates	10.6	12
Bachelors	31.9	36
Masters	38.1	43
Ph.D.	5.3	6
Post Ph.D.	3.5	4

TABLE 2 (cont.)

SURVEY OF DEMOGRAPHIC DATA OF RESPONDENTS

	Frequencies (%)	Sample (N)
Type of Direct Care Provider		
Not	33.6	38
Nurse	32.7	37
Social Worker	4.4	5
Physician	1.8	2
Other	27.4	31
Direct Care Provider		
N/A	3.5	4
Yes	46.0	52
No	50.4	57
Cycle of TQM Training		
N/A	8.0	9
Cycle 1	15.9	18
Cycle 2	13.3	15
Cycle 3	12.4	14
Cycle 4	16.8	19
Cycle 5	8.0	9
Cycle 6	15.0	17
Cycle 7	7.1	8
QA	3.5	4
Department		
N/A	35.4	40
Clinical	18.6	21
Nursing	20.4	23
Ad. & Educ.	8.8	10
Support Serv.	2.7	3
Food	14.2	16

Table 3 presents the means of the six factors in the decision making environment of the Facility's employees who had attended TQM training, and compares them by the direct care provider and the non-direct care provider responses. The six factors were calculated from the 32 statements on the survey. We will call the mean (3.0) neutral to help explain the position of different groups. For the entire group, the means for multiple inputs and alternatives (3.07), problem identification (2.94), and resource adequacy (2.99) were all very close to the neutral point. The reward for good decisions mean (2.48) and use of group efforts (2.82) were on the strongly disagree side of neutral. The factor for Bureaucratic Blocks and Politics (3.41) was highly agree. All six factors were significantly different for the direct care providers and non-direct care providers; multiple inputs and alternatives (T=1.73, p=.086), problem identification and organizations (T=1.84, p=.069), rewards for good decisions (T=2.15, p=0.034), use of group efforts (T=1.75, p=0.083), bureaucratic blocks (T=2.58, p=0.011), and resource adequacy (T= -3.90, p=0.000).

TABLE 3

FACTOR MEANS IN DECISION MAKING ENVIRONMENT AND T-TESTS BY DIRECT CARE OR NON-DIRECT CARE PROVIDER

Factor (Cronbach's alpha)**	Sample N=113	Direct Care Yes N=52	No N=57	p-value	Degrees of Freedom	T-value
1. Multiple Inputs & Alternatives (0.68)**	3.07	3.21	2.96	(0.082*)	107	1.73
2. Problem Identification & Organizations (0.69)**	2.94	3.07	2.83	(0.069*)	107	1.84
3. Rewards for Good Decisions (0.63)**	2.48	2.65	2.34	(0.034**)	107	2.15
4. Use of Group Efforts (0.62)**	2.82	2.97	2.71	(0.083*)	107	1.75
5. Bureaucratic Blocks & Politics (0.72)**	3.41	3.63	3.22	(0.011**)	107	2.58
6. Resource Adequacy (0.67)**	2.99	2.60	3.33	(0.000***)	107	-3.90

Significance Levels: * $p<0.1$ ** $p<0.05$ ***$p<0.01$

* Source: Boone and Kilmann (1991). The Context of Decision Making in Organization: A Factor Analysis. Advances in Information Processing in Organization. 4, 147-16

Table 4 presents the six factors of the decision making environment comparing the seven cycles of TQM training. Cycle 5 had the highest mean (3.36) in the multiple inputs and alternative's category. The problem identification factor had all cycles very close to the neutral point with cycle 1 (2.72) and cycle 2 (3.21) the lowest and highest, respectively. All of the cycles were low scoring for the reward factor with cycle 7 the lowest mean (2.05). The use of Group Efforts factor has all groups below the neutral point except for cycle 5 (3.19). Politics as a factor was scored high by all cycles with Cycle 2 and 4 the highest means (3.57) and (3.68), respectively. The Resource Adequacy factor was near the neutral point except for Cycle 7 with a mean of (2.63).

TABLE 4

FACTOR MEANS IN DECISION MAKING ENVIRONMENT
by TQM CYCLE

Factors	Sample N=113	Cycle 1 N=18	Cycle 2 N=15	Cycle 3 N=14	Cycle 4 N=19	Cycle 5 N=9	Cycle 6 N=17	Cycle 7 N=8
1. Multiple Inputs & Alternatives	3.07	3.06	3.14	2.94	3.09	3.36	3.25	2.81
2. Problem Identification & Organizations	2.94	2.72	3.21	2.80	2.82	3.26	2.97	3.13
3. Rewards for Good decisions	2.48	2.33	2.43	2.47	2.69	2.64	2.56	2.05
4. Use of Group efforts	2.82	2.81	2.91	2.86	2.55	3.19	2.76	2.98
5. Bureaucratic Blocks & Politics	3.41	3.39	3.57	3.29	3.63	3.22	3.26	3.53
6. Resource Adequacy	2.99	3.11	3.04	2.88	2.93	2.81	2.96	2.63

The scale is 1-5 with 1 being strongly disagree and 5 being strongly agree.

The significant differences between the cycles are shown in Table 5. Cycle 5 most frequently shows a significant difference than another cycle with four of the seven occurrences in this comparison. Cycle 1 was lower significantly than cycle 2 (T=-2.28,p=0.029), cycle 5 (T=-2.79, p=0.015), and cycle 7 (T=-1.89, p=0.036) in Problem Identification and Organization. Cycle 5 and cycle 4 were significantly higher than cycle 7 (T=2.40, p=0.030) and (T=4.95, p=0.062), respectively. The Use of Groups, however, was lower significantly with cycle 4 than cycle 5 (T=-1.85, p=0.076).

TABLE 5

FACTOR MEANS IN A DECISION MAKING ENVIRONMENT
BY TQM CYCLE OF TRAINING

Factors (N)	mean	T-value	Degrees of freedom	p-value
PROBLEM ID AND ORGANIZATION				
CYCLE 1	2.72			
vs. CYCLE 2	3.21	-2.28	31	0.029**
CYCLE 5	3.26	-2.79	25	0.012**
CYCLE 7	3.13	-1.89	24	0.071*
CYCLE 3	2.80			
vs. CYCLE 5	3.26	-1.80	21	0.086*
REWARDS FOR GOOD DECISIONS				
CYCLE 5	2.64			
vs. CYCLE 7	2.05	2.40	15	0.030**
CYCLE 4	2.69			
vs. CYCLE 7	2.05	4.95	25	0.062*
USE OF GROUPS				
CYCLE 4	2.55			
vs. CYCLE 5	3.19	-1.85	26	0.076*

Significance Levels: p<0.1 *, p<0.05**, p<0.01***

Tables 6, 7 and 8 show the comparisons of the remaining demographic characteristics. The food service group was significantly lower in the inputs and alternative's group than nursing(T=2.42, p=0.021) and administration (T=1.97, p=0.061). The food service group was also significantly lower in the problem identification factor than clinical staff (T=1.72, p=0.095) and the administration (T=2.64, p=0.014), however, the administration was significantly higher than nursing (T=2.10, p=0.044) and support services (T=2.94, p=0.014). The reward factor was also significantly lower for food service than clinical (T=2.72, p=0.009), nursing (T=4.70, p=0.000), and administration (T=2.52, p=0.019). The nursing department was significantly higher in teams than support services (T=1.75, p=0.093) and food services (T=2.73, p=0.010). The administration was also significantly higher in the team factor than food service (T=2.35, p=0.027). The administrators and educators were significantly lower in the politics as a problem factor than the clinical staff (T=-3.19, p=0.003), nursing staff (T=-3.59, p=0.001) , support service group (T=-1.93, p=0.080), and food service (T=-3.45, p=0.002). The administrators and educators were significantly higher in adequate resources than clinical (T=-2.30, p=0.029), nursing (T=-2.11, p=0.043), and food service (T=-2.04, p=0.052).

In Table 7 the significant differences were between education levels. The Inputs and Alternatives factor of the high school are lower significantly than those with a bachelors (T=-2.43, p=0.020), or masters (T=-2.36, p=0.022). In the Problem Identification and Organization Factor, the high school group was lower significantly than the associates (T=-2.18, p=0.043) and bachelors (T=-2.31, p=0.026) groups. The high school group scored significantly lower in the reward's factor than those in the bachelors (T=-3.24,

p=0.002), masters (T=-2.04, p=0.047) and post Ph.D. (T=-2.33, p=0.042) groups. The Bureaucratic Blocks factor was again significantly lower for the high school group than those with a bachelors (T=-2.31p=0.026) or master's degree (T=-2.30, p=0.026). The high school group was significantly higher in the resource adequacy factor than associates (T=1.99, p=0.063), masters (T=2.06, p=0.045), and Ph.D (T=2.46, p=0.030). The bachelors group was significantly higher in problem identification than those with a masters (T=1.93, p=0.056). In the reward's category, the bachelors group was again significantly higher than those with a Ph.D. (T=1.95, p=0.058).

TABLE 6

COMPARISON OF DECISION MAKING FACTOR MEANS BY DEPARTMENT

Factors (N)	mean	T- value	Degrees of freedom	p-value
INPUTS AND ALTERNATIVES				
Food Service (N=16)	2.72			
vs. Nursing (N=23)	3.28	2.42	37	0.021**
Admin (N=10)	3.39	1.97	24	0.061*
PROBLEM ID AND ORGANIZATION				
Food Service (N=16)	2.66			
vs. Clinical (N=21)	3.06	1.72	35	0.095*
Admin (N=10)	3.33	2.64	24	0.014**
Admin. & Educ. (N=10)	2.65			
vs. Nursing (N=23)	2.88	2.10	31	0.044**
Support (N=3)	2.33	2.94	11	0.014**
REWARDS				
Food Service (N=16)	1.93			
vs. Clinical (N=21)	2.61	2.72	35	0.009***
Nursing (N=23)	2.90	4.70	37	0.000***
Admin. (N=10)	2.64	2.52	24	0.019**
TEAMS				
Nursing (N=23)	3.01			
vs. Support Serv. (N=3)	2.39	1.75	24	0.093*
Food Service (N=16)	2.41	2.73	37	0.010**
Admin. & Ed. (N=10)	3.22			
vs. Food Service (N=16)	2.41	2.35	24	0.027**

Significance Levels: p<0.1*, p<0.05**, p<0.01***

TABLE 6 (cont.)

COMPARISON OF DECISION MAKING FACTOR MEANS BY DEPARTMENT

Factors (N)	Mean	T-value	Degrees of Freedom	p-value
BUREAUCRATIC BLOCKS				
Admin. & Educ. (N=10)	2.65			
vs. Clinical (N=21)	3.55	-3.19	29	0.003***
Nursing (N=23)	3.47	-3.59	31	0.001***
Support (N=3)	3.67	-1.93	11	0.080**
Food Serv. (N=16)	3.64	-3.45	24	0.002***
ADEQUATE RESOURCES				
Admin. & Ed. (N=10)	3.67			
vs. Clinical (N=21)	2.70	-2.30	29	0.029**
Nursing (N=23)	3.00	-2.11	31	0.043**
Food Service (N=16)	2.90	-2.04	24	0.052*

Significance Levels: $p<0.1$ *, $p<0.05$ **, $p<0.01$ ***

TABLE 7

COMPARISON OF DECISION MAKING FACTOR MEANS BY EDUCATION LEVEL

Factors (N)	mean	T-value	Degrees of freedom	p-value
INPUTS AND ALTERNATIVES				
High school (N=7)	2.52			
vs. Bachelors (N=36)	3.17	-2.43	42	0.020**
Masters (N=43)	3.15	-2.36	49	0.022**
PROBLEM ID AND ORGANIZATION				
High school (N=8)	2.58			
vs. Associates (N=12)	3.13	-2.18	18	0.043**
Bachelors (N=36)	3.15	-2.31	42	0.026**
Bachelors (N=36)	3.15			
vs. Masters (N=43)	2.47	1.93	77	0.056*
REWARDS FOR GOOD DECISIONS				
High school (N=8)	1.88			
vs. Bachelors (N=36)	2.71	-3.24	42	0.002**
Masters (N=43)	2.47	-2.04	48	0.047**
Post Ph.D. (N=4)	2.85	-2.33	10	0.042**
Bachelors (N=36)	2.71			
vs. Ph.D. (N=6)	2.13	1.95	40	0.058*
BUREAUCRATIC BLOCKS				
High School (N=8)	2.81			
vs. Bachelors (N=36)	3.52	-2.31	42	0.026**
Masters (N=43)	3.49	-2.30	49	0.026**
ADEQUATE RESOURCES				
High School (N=8)	3.63			
vs. Associates (N=12)	2.78	1.99	18	0.063*
Masters (N=8)	2.81	2.06	49	0.045**
Ph.D (N=4)	2.83	2.46	12	0.030**

Significance levels: p<0.1*, p<0.05**, p<0.01***

Table 8 was the age comparison table. The only age group mean with any significant difference was the 56 and over group. The 56 and over group was higher significantly than the 36 through 45 (T=-1.98, p=0.052) and 46 through 55 (T=-2.07, p=0.042) group in the bureaucratic blocks and politics factor. The 56 and over group was also significantly lower than the 46-55 group (T=2.07, p=0.051) in the teams factor.

TABLE 8

COMPARISON OF DECISION MAKING FACTOR MEANS BY AGE

Factors (N)	mean	T-value	Degrees of freedom	p-value
BUREAUCRATIC BLOCKS				
56 and Over (N=4)	4.19			
vs. 36 to 45 (N=53)	3.33	-1.98	55	0.052*
46 to 55 (N=18)	3.26	-2.17	20	0.042**
TEAMS				
56 & over (N=4)	2.21			
vs. 46-55 (N=18)	3.02	2.07	20	0.051*

Significance levels: $p<0.1$ *, $p<0.05$ **

A comparison was done on the first part of the survey. The comparison was whether the decision being used to fill in the survey was either operational, strategic, or not answered at all. The results were that 31.9% of the respondents used no specific decision when filling in the survey, while 13.3% were strategic and 54.9% were operational for those who did use a recent decision for filling in the 32 questions of the survey. The operational problems the decisions were made from fell into five general categories: procedures, scheduling, staffing, diet order changes, and purchasing new equipment (table 9).

The strategic problems were not specific to a particular item, but most were considered confidential. The group t-test run was the six factors of effective decision making. The out come of the comparison was that no significant difference existed between the type of decision being thought about while answering the survey.

TABLE 9

GROUPING OF OPERATIONAL PROBLEMS USED

IN PART 1 OF QUESTIONNAIRE

scheduling	staffing	procedures	purchase eqip	diet changes
11	9	25	8	9

The use of a free cup of coffee was not significant since responses were almost equal between those offered coffee (51%) and those not offered free coffee(49%).

CONCLUSIONS AND RECOMMENDATIONS

The response rate to the survey was 48.3% (113) of the 234 that were surveyed. The response rate by cycle was 60% (18 of 30) for cycle 1, 55.5% (15 of 27) for cycle 2, 50% (14 of 28) for cycle 3, 65.5% (19 of 29) for cycle 4, 31% (9 of 29) for cycle 5, 58.6% (17 of 29) for cycle 6, 27.6% (8 of 29) for cycle 7, and the remaining 13 had not attended a cycle of training or had not answered the question. Cycle's 1-3 were composed of the facility's top management personnel, since the training programs were conducted from the top levels down to the lower levels of management and staff. The response from the separate survey of the food service department was 51.5% or 17 respondents. The demographic results were 78.8% of the respondents were female, while direct care providers (46%) and non-direct care providers (50%) were almost equal. The highest percentage group for years of experience was the over 20 years of experience group (28.3%) and the Bachelors and Masters degrees in education were 70% of the total sample. The department grouping in the demographic analysis was the only question that no response received more than 10% of the answers (35.4%). A possible conclusion for the high percentage of no answer for departments may be that people felt that it would single them out with this additional information. The remaining information in this portion of the analysis would appear to have a high degree of confidence. The two questions asking respondents whether or not you are a direct care provider should be restructured to be more specific with options; or the second question should be deleted altogether.

The study found several significant differences among the TQM trained employees and their perception of the decision making environment. The six factors used in the analysis have the ability to be influenced by

different groups of management teams. The two with the most influences are the TQM program initiative and the administrators groups. Multiple inputs and alternatives and problem identification and organization are the two factors that TQM principles could most affect. Boone and Kilmann consider these two factors to measure the rational processes in decision making. The remaining four are rewards for good decisions, use of group efforts, bureaucratic blocks and resource adequacy that are affected the most by those who administer the policies of the hospital environment. Boone and Kilmann consider these to be the non-rational or behaviorally based factors. The exception to these groupings would be the use of groups. It should be considered as effected by TQM initiatives as well as the administrative policies and procedures.

The findings show that the means of rewards (2.48) and politics (3.41) are the two factors that are looked upon as unfavorable by the entire group. The means for inputs(3.07), resources (2.99), and problem identification (2.94) are roughly neutral for the entire group. The mean for the use of group efforts (2.82) was rated as slightly unfavorable by the whole group. It is very critical to remember in this pilot study that the findings provide useful information that may help back up thoughts on the direction of TQM within the facility. These findings would indicate that the TQM initiative could work on improving the areas of multiple inputs and problem identification, but would suggest that the use of groups is not doing very well. The findings suggest that the administrators have created several bureaucratic blocks and are not providing rewards for good decisions.

The direct care providers and the non-direct care providers analysis (table 3) would imply that direct care providers are favored in multiple inputs, problem identification, and rewards, but have larger bureaucratic blocks to manage. In table 5, the significant differences among the different cycles

were compared. Cycle 1, which consisted of the top administrators, has an exaggerated perception of the decision making environment in comparison to cycles 5 and 7. The conclusion here may be that the administrators know the problems, but are not able to provide the proper tools for a solution. The other issue from this analysis was that cycles 5 and 7 were the two least responded to cycles with less than 50% of the possible respondents returning the surveys. Cycle 7, the last group to be trained felt that it was rewarded the least of all the groups. A possible conclusion may be that as the training moves into the lower management levels the poorer the rewards. The use of groups also showed as a problem between cycle 4 and 5. The conclusion here may be the lack of responses from cycle 5 or cycle 5 uses group effort in all its training. The overall conclusion from this would be that all those that are trained in TQM appear to understand the decision making environment within the hospital environment.

In the comparison by departments, the food service department appears to have a larger negative gap in their perception of the decision making environment. Based on direct observation, the results of the survey do closely reflect upon the foodservice department; in particular, a lack of reward equity within the department is a constant cause of friction. An equity raise for 14 of first level supervisors was approved early in the year, but rescinded by the very top board of managers in the facility. This took place after the survey had been returned. I can only imagine how low the reward questions would be if those 14 individuals were surveyed. It is also a perfect example of how a very few powerful persons at the top make all the decisions within the facility. I would recommend that the food service department do another survey to verify the initial findings of that department. I would also recommend surveying a larger sample of another support service department (i.e. Housekeeping) to compare

the food service findings with. This would allow for a similar comparison within a more similar service discipline.

The results also showed that administration didn't recognize the bureaucratic blocks in the environment. Four of the other five departments were all significantly different from administration, thereby, supporting the fact that the top administrators are the "rule makers".

The comparison of the education level provided information that may be useful in the future. It could be concluded that those with a high school education have a much lower perception of the decision making environment. In all six factors except the use of groups high school education level was significantly lower than most of the other education levels. It may indicate that as TQM training is pursued among the hourly employees and less educated, a different training program may be needed to change the perceptions of that group. It may also indicate that a different culture exists or a different level of understanding in the hourly employees with less than a college education.

The remaining results regarding the age and years of experience showed no consistent significant differences. The use of free coffee to increase the responses was not successful, both were at about 50%. A comparison of the differences between responses to the questions in part one of the survey also showed no significant differences; that comparison was whether or not the decision cited was operational or strategic in nature. The results of the operational problem grouping showed that interdepartmental procedures were the most frequent problem mentioned by the survey respondents followed by procedures, scheduling, staffing, diet order changes, and purchasing new equipment.

It is the above conclusions that have supported the hypothesis of this paper. Each area tested in the paper rejected the null hypothesis. A null

hypothesis would conclude that nothing was different. The hypothesis of the paper stated that there would be a difference among the groups. The confidence level of the data is very high since a very large sample size was obtained.

I would also recommend two additional items. The first would be to administer the survey to a group of employees with no TQM training. The second would be to conduct this same survey again one year later to check for continued improvement, or areas which may need more attention. The high level of confidentiality in this survey helped to maintain the nearly 50% participation rate.

I believe that until everyone is trained in TQM decision making those that have been trained will be more critical of the decision making structures and processes. A complete cultural change within the environment of the hospital won't change until everyone is trained and the top becomes willing to allow the employee to become the real decision maker. The fact that in the literature review I was unable to obtain material related to measuring the decision making environment in the healthcare industry was why I felt this research would be beneficial to the industry.

A synopsis of this report was shared with the quality department coordinator who was heading the TQM initiative within the facility. I have a hard time believing TQM was really affecting all those items. Since this was the initial survey these items were probably already happening. This is the exact reason it is important to measure the decision making environment at the healthcare facility again in the future. It would show the improvements or areas that would need improvements.

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APPENDIX I

QUESTIONNAIRE

The information below will be confidential and used for data analysis only. We truly appreciate accurate information of both personal and organizational information.

Demographic Information

Sex: Female _____ Male _____

Age: Under 25 _____, 26-35 _____, 36-45 _____, 46-55 _____, over 56 _____

Year(s) of experience in the health care profession: _____

Direct care provider: Yes _____ No _____
If yes: Nurse _____, Social Worker _____, Physician _____, Other _____

Current department _____ (optional)

Date you received Strong Quality Training (check appropriate category)

Cycle		Date
1	_____	Fall 1991 (Cycle 1)
2	_____	Spring 1992 (Cycle 2)
3	_____	Fall 1992 (Cycle 3)
4	_____	February-March 1993 (Cycle 4)
5	_____	May-June (Cycle 5)
6	_____	Fall 1993 (Cycle 6)
7	_____	February-March (Cycle 7)
-	_____	Strong Quality Awareness Training (1 1/2 Hrs)

Highest level of education obtained

_____ High School Diploma
_____ Associates Degree
_____ Bachelors Degree
_____ Masters Degree
_____ Ph.D.
_____ Post Ph.D.

Measurement of Contextual Features of Decision Making Process and Environment

Part A. Please consider one work related decision in which you were recently involved, and provide a brief written description of that situation below. (A decision made by yourself or a group, regardless of its success is okay).

Part B. Keeping the above decision situation in mind, carefully read the following statements and circle the degree to which you agree or disagree with each on a 5-point scale. (N/A = not applicable; 1 = strongly agree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree).

		Strongly Disagree				Strongly Agree
1.	Decision makers have adequate access to equipment like calculators, computers, telephones, etc. to allow them to do good work in this organization.	N/A	1	2	3	4 5
2.	People who offer good ideas are fairly rewarded here.	N/A	1	2	3	4 5
3.	Decision makers want to hear different points of view.	N/A	1	2	3	4 5
4.	Management provides enough support to carry out these decisions.	N/A	1	2	3	4 5
5.	People involved in decisions make sure they identify the real (right) problem.	N/A	1	2	3	4 5
6.	It is easy to get things done because decision makers know who is in charge and who to ask for help in this organization.	N/A	1	2	3	4 5
7.	People working on problems have the skills needed to solve them.	N/A	1	2	3	4 5
8.	There is a lot of "red tape" to go through before anything can be accomplished here.	N/A	1	2	3	4 5

9.	People who make good decisions receive the rewards they deserve.	N/A 1 2 3 4 5
10.	Decision makers have access to relevant information from all parts of the organization.	N/A 1 2 3 4 5
11.	The equipment (calculators, computers, video and conferencing systems, etc) used to aid decision making in this organization works reliably.	N/A 1 2 3 4 5
12.	One or a few people dominate decisions in this organization.	N/A 1 2 3 4 5
13.	This organization has good ways to measure the performance of its members.	N/A 1 2 3 4 5
14.	Decision makers appreciate and take advantage of each other's differences, strengths, and unique capabilities.	N/A 1 2 3 4 5
15.	Decisions are usually made by individuals, not teams of people in this organization.	N/A 1 2 3 4 5
16.	The reward system is designed to benefit members who solve the organization's problems.	N/A 1 2 3 4 5
17.	There are not enough physical resources such as computing equipment, office space, communication systems, etc. to support good decision making.	N/A 1 2 3 4 5
18.	There are too many policies and procedures controlling decisions.	N/A 1 2 3 4 5
19.	Organization members are encouraged to try new ideas.	N/A 1 2 3 4 5
20.	Changes are usually opposed in this organization because they cost too much.	N/A 1 2 3 4 5
21.	This organization often uses special groups like project teams, task forces, matrix groups, and collateral groups to address problems.	N/A 1 2 3 4 5

22.	Adequate rewards are provided to encourage members to offer new ideas.	N/A 1 2 3 4 5
23.	Information about problems is obtained from many different sources.	N/A 1 2 3 4 5
24.	Information about problems is accurate.	N/A 1 2 3 4 5
26.	Clear objectives are set for decisions.	N/A 1 2 3 4 5
27.	Decision makers are willing to take some risks.	N/A 1 2 3 4 5
28.	Organization members feel free to disagree with management.	N/A 1 2 3 4 5
29.	People are encouraged to discuss problems with other organization members when making decisions.	N/A 1 2 3 4 5
30.	There are a few powerful people in this organization who always influence decisions.	N/A 1 2 3 4 5
31.	Many possible solutions to problems are generated and considered.	N/A 1 2 3 4 5
32.	Important decisions in this organization are usually made by upper management only.	N/A 1 2 3 4 5

APPENDIX II

COVER LETTER A

(FIRST MAILING)

UNIVERSITY OF
ROCHESTER

INTRAMURAL CORRESPONDENCE

To: Strong Quality Basic Training Participants

From: Jeanne N. Dent JND
Director, Strong Quality Management

Date: February 10, 1994

Re: Measurement of Decision Making at Strong Memorial Hospital

Enclosed is a questionnaire entitled "Measurement of Decision Making at Strong Memorial Hospital." A random sample of Hospital staff who have completed Strong Quality Basic Training will be surveyed against a random sample of those not yet trained in order to assess the degree of change, if any, in the decision making environment between the survey participants.

I would very much appreciate your taking a few minutes to complete the questionnaire as the results of this study will help us measure a change in the environment relative to the introduction of the concepts and tools of total quality management. SMH employee, Terry Ovenshire, is assisting the Strong Quality Office with this research study as a part of his RIT Masters' project. Your participation will remain confidential and the results of the study will be reported on a general basis only.

Again, please take a few moments to complete the questionnaire and return in the attached envelope by February 25, 1994. (Strong Quality Office, Box 612, Attn: Decision Making Study.)

Thanks for your participation!

R:\ovenshir.ltr

APPENDIX III

COVER LETTER B

(FIRST MAILING)

UNIVERSITY OF
ROCHESTER

INTRAMURAL CORRESPONDENCE

To: Strong Quality Basic Training Participants

From: Jeanne N. Dent JND
Director, Strong Quality Management

Date: February 10, 1994

Re: Measurement of Decision Making at Strong Memorial Hospital

Enclosed is a questionnaire entitled "Measurement of Decision Making at Strong Memorial Hospital." A random sample of Hospital staff who have completed Strong Quality Basic Training will be surveyed against a random sample of those not yet trained in order to assess the degree of change, if any, in the decision making environment between the survey participants.

I would very much appreciate your taking a few minutes to complete the questionnaire as the results of this study will help us measure a change in the environment relative to the introduction of the concepts and tools of total quality management. SMH employee, Terry Ovenshire, is assisting the Strong Quality Office with this research study as a part of his RIT Masters' project. Your participation will remain confidential and the results of the study will be reported on a general basis only.

Again, please take a few moments to complete the questionnaire. In appreciation, we offer you a coupon for a cup of coffee (8 oz) at the House of Six Nations.

Please return the completed questionnaire in the attached envelope by February 25, 1994.

Thanks for your participation!

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APPENDIX IV

COVER LETTER C

(SECOND MAILING)

To: Food and Nutrition Staff

From: Terry Ovenshire
Assistant Operations Manager

Date: May 10, 1994

Re: Measurement of Decision Making at Strong Memorial Hospital

WE ARE ENCLOSING A QUESTIONNAIRE ON "DECISION MAKING PROCESS IN THE FOODSERVICE ENVIRONMENT." WE WOULD APPRECIATE YOU TAKING A FEW MINUTES NOW TO COMPLETE THIS AND RETURN IT TO BOX 613 IN THE INTER OFFICE MAIL.

YOUR CONTRIBUTION TO THIS RESEARCH STUDY WILL RESULT IN A BETTER UNDERSTANDING OF THE DECISION MAKING ENVIRONMENT IN THE FOODSERVICE INDUSTRY. IN ADDITION, IT IS HOPED THAT THIS RESEARCH WILL HELP TO PROVIDE A GUIDANCE TO FOODSERVICE PROFESSIONALS IN EVALUATING AND IMPROVING THEIR DECISION MAKING ENVIRONMENTS.

IT IS IMPORTANT FOR YOU TO REALIZE THAT YOUR PARTICIPATION IN THIS STUDY IS ABSOLUTELY CONFIDENTIAL. THE RESULT OF THIS STUDY WILL ONLY BE PUBLISHED ON A GENERAL BASIS. HOWEVER, IF YOU ARE INTERESTED IN THE RESULTS OF THE STUDY, IT WILL BE AVAILABLE THROUGH THE FOOD AND NUTRITION OFFICE.

YOUR ASSISTANCE IS INVALUABLE. WE WOULD APPRECIATE YOUR RESPONSE NO LATER THAN MAY 20, 1994.

THANKS FOR YOUR PARTICIPATION!

APPENDIX V

SUMMARY OF DECISIONS: PART 1 OF QUESTIONNAIRE

Summary of Decisions: Part 1 of Questionnaire

Procedures

1. Which patient will be in the closest observation room?
2. Change time the unit dose cart arrives.
3. Change in reporting procedure on medical records forms.
4. Developed a spreadsheet to track documentation flow of patient records.
5. Use of brainstorming to change a procedure.
6. Change in the office space allocation and priority of each person.
7. Moving overnight recovery to a different area.
8. Improvement of flow within the clinic to speed patients through.
9. Improvement in a lab process.
10. Changed the order entry system for IV medication for efficiency.
11. Order of paging staff determined by certain criteria.
12. Determine the procedure for new policies in that department.
13. Setting up of meeting between two departments for joint effort on new program.
14. Determine procedure to refund patient money when insurance is involved.
15. Determine a procedure for logging lab cultures.
16. Change in review of complaints between all parties.

17. Determine the processing procedure of sterilized equipment.
18. Determine responsibility of checking EMEVS in regards to admitting.
19. Decrease in medication errors by nursing.
20. Change in procedure when involving several agencies.
21. Change reporting of medical records list from monthly to weekly.
22. Develop procedure to determine distribution of conference funds.
23. Change the linen delivery procedure to reduce stock.
24. Determine if a one day lag in billing will create problems.
25. Change in procedure for reporting patient complaints internally.

Scheduling

1. Scheduling of how often and who will check the emergency cart.
2. Change in the staffing of clinical areas.
3. Change in clinical scheduling.
4. Development of self-scheduling for unit staff.
5. Using TQM for model of self-scheduling.
6. Adding additional clinics to schedule.
7. Scheduling of employees for summer vacations.
8. Determining vacations on seniority for staff of 50.
9. Scheduling of operations around emergency operations.
10. Change in scheduling to accommodate new clinic.
11. Determine new schedule with new tray delivery system.

Staffing

1. Will reorganization of department increase staffing?
2. Add a new position to support patient care services.
3. Determine the best candidate for new position.
4. Hired new lead rep for my area.
5. Use of agency staff fro unpredictable staffing needs.
6. To support a request for funding additional staff.
7. Decision to create a new position to support patient care services.
8. How do we eliminate positions for new delivery system.
9. Do we add staff or do we pay for agency staff.

Diet Order Changes

1. A change in updating diet sheets.
2. New procedure updating diet sheets.
3. Revision of diet transcription procedures.
4. Updating diet order system for trayline.
5. Use of diet boards to make diet order changes.
6. Change in diet order has left less trays for late admits.
7. Change in diet service the way meal is ordered.
8. Dietary policies on when and how food will be delivered to pts.
9. Implementation of new diet order procedures.

Purchase of New Equipment

1. Decision to purchase enhancement for telephone system.
2. To purchase computer equipment.
3. To purchase new computer equipment for OR.
4. Decision to purchase new printer.
5. To purchase or lease chairs for interim seating.
6. Decision to purchase new office furniture.
7 Decision to purchase a new type of surgical equipment.
8. To purchase new delivery system or upgrade old one.